



INGAA Foundation Spring Meeting

April 18, 2008

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*2007 Pipeline Construction:
Lessons Learned and Solutions*

*“Adaptation: Building a
Flexible Team”*

KEY GOALS

- **Embrace Change**
 - Understand the Underlying Processes
 - Monitor Rates of Production
 - Start Early
 - Right of Way (ROW) Efforts are Fundamental

- **Communicate Across the Team**
 - Engineering and Design
 - ROW
 - Construction

- **Demonstrate the Ability to Adapt**
 - New Information/Conditions
 - Identify Process Shifts

DESIGN FOR THE SCOPE OF THE PROJECT

- **Construction Workspace**
 - Winter Construction
 - Automatic Welding
 - Topsoil Segregation
 - Unconsolidated soils
 - Side Slopes

- **Access Roads**
 - Number
 - Width
 - Improvements
 - Acquisition
 - Permits and Clearances

ENSURE ROW EFFORTS CONTRIBUTE, NOT CONSTRAIN

- **Outreach Implementation**
 - Agents are the Face of the Project Sponsor
 - Training
 - Corporate Policies
 - Project Details
 - Sensitivity to Concerns
 - Landowner Focused

- **Adaptable and Process Oriented**
 - Strong Leadership
 - Communicative
 - Supported
 - Focus on Re-routes and Double-backs

INVOLVE THE CONSTRUCTION SUPERVISORS EARLY

- **Develop the Interface**
 - Communication
 - Documentation
 - Multiple Reviews

- **Focus on Knowledge**
 - ROW Width and ATWS
 - Road Crossings and Bores
 - HDD's/False ROW
 - Wetland and Waterbody Crossings

FOCUS ON GETTING TO CONSTRUCTION

- **Make it Easy**
 - Contractor Yards
 - Environmental Clearances and Permits
 - FEIS Condition Responses
 - Implementation Plan
 - Alignment Sheets

- **Meet Contractors Work Plan and Expectations**
 - Understand the Contractors Work Plan in detail
 - Locations
 - Timing
 - Crews
 - Construction Start Letters
 - Clearing vs. Grading / Firing Line vs. HDDs

UTILIZE COMPLIANCE MONITORS AND THE VARIANCE PROCESS

- **Requires FERC–Approved Compliance Team**
 - Standard FERC Third Party RFP
 - Significant Process Controls and Training
 - Facilitates Field Compliance Inspections
 - Additional Personnel on Site
 - Compliance Monitors
 - Compliance Manager

- **Allows Variances to be Processed Efficiently**
 - Initiated by Construction Team
 - One of Three Levels
 - Some Processed within the Day